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BRISTOL BAY WEB FAQs

EPA's Role

Is EPA invoking Clean Water Act section 404(c) with regard to the potential Pebble Mine?

The agency is not invoking Clean Water Act section 404(c)—and it may not at all.

The draft watershed assessment examines the effects of mining development in general, including the potential Pebble Mine. EPA studied what information was available specific to the Pebble Mine because it is the most likely large scale development project. The information we gather will establish a scientific foundation for any decisions EPA may make in the future.

Why is EPA doing this assessment? Why now, before it has received a mine proposal?

EPA initiated this assessment in response to petitions from nine federally recognized tribes and other stakeholders who asked us to take action to protect Bristol Bay's salmon populations. They have expressed concern that the Bristol Bay salmon fishery would be at risk from large-scale mining.

We also heard from other tribes and stakeholders who support development in the Bristol Bay watershed and have requested we take no action.

EPA is performing this assessment to better understand the watershed and its resources. This information will inform the agency's response to requests.

What authority is EPA using for its watershed assessment?

EPA conducted this assessment under its Clean Water Act Section 104(a) authority, which directs the agency to:

...conduct and promote the coordination and acceleration of, research, investigations, experiments, training, demonstrations, surveys, and studies relating to the causes, effects, extent, prevention, reduction, and elimination of pollution.

What is Clean Water Act Section 404(c)?

Clean Water Act Section 404(c) authorizes EPA to restrict, prohibit, deny, or withdraw the use of a water body as a disposal site for dredged or fill material—such as mining and other waste—if the discharge will have unacceptable adverse impacts on municipal water supplies, shellfish beds and fishery areas, wildlife, or recreational areas.

Clean Water Act Section 404(c) authority may be exercised before a permit application is submitted, while an application is pending, or after a permit has been issued.

If EPA decides to invoke Clean Water Act Section 404(c), will that be a definitive decision to prevent mining development in Bristol Bay?

If EPA elects to initiate a Clean Water Act Section 404(c) process, there will be a separate public process with several opportunities for public input.

At this time, EPA has not drawn any conclusions or decided on any future agency actions regarding the Bristol Bay Watershed. This assessment is a tool the agency will use to inform any future decisions.

What is the scope of the analysis?

The draft assessment is focused on the Nushagak and Kvichak watersheds in Bristol Bay, which are open for large-scale development. We examined the current environmental conditions and possible short-term and long-term impacts of mining development in these watersheds.

EPA reviewed existing scientific studies and data for the Bristol Bay watershed. Due to the significance of the Bristol Bay salmon fishery, the agency is especially interested in potential impacts to salmon. EPA also examined potential impacts to additional fish species such as char, rainbow trout, whitefish and grayling, and wildlife such as bear, caribou and waterfowl. The assessment also considers potential effects on indigenous cultures related to salmon.

The assessment did not consider all of the potential environmental impacts from mining. For example, it did not consider impacts from a port facility, power generation, domestic waste disposal, or air emissions. It also did not consider direct impacts on wildlife or indigenous culture, only those related to salmon. It did not consider in detail the effects on recreation in the watersheds.

Did EPA evaluate the entire Bristol Bay watershed?

Our efforts focused on the parts of the watershed that are open for large-scale development, primarily in the Nushagak and Kvichak watersheds.

What questions does EPA aim to answer with this watershed analysis?

The questions we aim to answer with this analysis are:

- Is the Bristol Bay salmon fishery a one-of-a-kind, world class fishery?
- What are the existing and potential risks to Bristol Bay's salmon fishery associated with large-scale development activities such as hard rock mining?
- Are there technologies or practices that will mitigate these risks?

Did EPA find answers to these questions in its draft assessments?

EPA's assessment found that Bristol Bay is indeed a one-of-a-kind, world class fishery, supporting the largest sockeye salmon run in the world and additional fish species. The salmon and other fish are important as subsistence foods to Alaska Native Villages in the area ~~and the~~as well as the larger commercial fishing industry. The Bristol Bay watershed provides habitat for 35 fish species, more than 190 bird species, and more than 40 terrestrial animals.

The ~~existing and~~ potential risks to the salmon fishery associated with large-scale mine development evaluated in the assessment include:

- loss of headland streams and wetlands from the mining footprints
- loss of salmon downstream from the mine because of loss of water and nutrients from headwaters
- acid drainage from mines and mine waste
- development of roads, pipelines and additional infrastructure to support mine operations

- changes in the complex Bristol Bay surface water and groundwater hydrology that supports a robust habitat for salmon
- destruction of downstream areas in the event of a tailings dam failure
- ~~magnitude of potential mining operations in the area due to 17 existing mining claims~~potential effects if several of the 17 existing mining claims in the watersheds are developed

MITIGATION PRACTICES??

How certain is EPA about the conclusions of the draft assessment?

We made every effort to collect and evaluate the best information available. All of the information is documented so a reader can independently evaluate it. Where there are uncertainties in our evalution, we have identified them.

How long will ~~this watershed analysis take and when can we expect to see results~~it take to finalize the assessment?

~~The tentative schedule is to have a draft available for public, tribal and stakeholder review in spring of 2012 and a final product in fall of 2012.~~EPA wil consider public comment and recommendations from a scientific review panel before finalizing the assessment in the late fall of 2012.

Why has EPA committed to this schedule?

EPA has committed to those who have requested that we take action to complete a watershed assessment this year. We intend to do so.

Has EPA ever done an assessment like this before?

EPA has conducted assessments that examine environmental impacts of past actions or potential impacts of future actions, including studies that:

- Predict the future introduction of non-indigenous species to the Great Lakes
- Assess the effects of mountaintop mines and valley fills on aquatic ecosystems in the Central Appalachian Coalfields
- Explore the environmental impacts of human activities in the Waquoit Bay watershed in Massachusetts.

There are many more examples of similar studies the agency has done in the past.

Will the results of the watershed assessment affect all future development proposals (e.g., an airstrip, fish-processing plant, refinery, hospital, school, museum) that may require a dredge or fill disposal site?

It is unlikely that local community development proposals would be affected by this watershed assessment, which is focused on large-scale mining development.

Only development projects that would be constructed in wetlands or require wetlands to be filled are subject to the provisions of Clean Water Act Section 404. This type of development is currently subject to a permitting process, which the agency monitors continuously.

Would a Clean Water Act 404(c) decision affect the villages' ability to discharge from their sewage treatment facilities?

No.

Sewage treatment plant discharges are regulated under a different section of the Clean Water Act law—Clean Water Act Section 402.

Will EPA finish its assessment before the 2012 elections?
The national political election cycle is not a factor in our Bristol Bay Watershed Assessment process or schedule.

The Bristol Bay Watershed Assessment is scheduled to be finalized in ~~the~~ late fall ~~of 2012~~. We recognize that given the timing and the amount of public interest in Bristol Bay, it has the potential to be a topic of discussion in political campaigns.

What will happen after the assessment is completed?
EPA anticipates finalizing its assessment in the fall of 2012. The Agency will use this assessment to inform any future decision-making regarding the Bristol Bay watershed.

EPA has not drawn any conclusions about actions it may take at this time.

Did EPA work with the State of Alaska to develop a plan to assess the watershed? Does the state have a role in this?

EPA has had staff based in Alaska for decades who work regularly with the state's natural resource agency. EPA has been communicating with its state partners and welcomes their assistance in this effort.

~~The state has a central role in the Bristol Bay Watershed Assessment technical working group.~~
We are looking forward to input from the State of Alaska on our draft assessment document.
EPA is also seeking expertise from federal resource agencies and tribes.

What the Assessment Says about Bristol Bay

How much salmon does Bristol Bay produce each year?

Five species of Pacific salmon spawn and rear in the Bristol Bay watershed: sockeye, Chinook, chum and pink. Bristol Bay supports the largest sockeye salmon fishery in the world, producing approximately 46 percent of the average global abundance of wild sockeye salmon between 1956 and 2005. The annual average run of sockeye salmon in Bristol Bay was approximately 37.5 million fish between 1990 and 2010.

The sockeye salmon fishery is estimated to be worth $114.7 million annually and supports 11,000 jobs.

In addition, the Nushagak River supports one of the world's largest Chinook salmon runs.

What other types of fish and wildlife exist in Bristol Bay?

The Bristol Bay watershed provides habitat for 35 fish species, more than 190 bird species, and more than 40 terrestrial animals.

In addition to salmon, Bristol Bay watersheds support exceptional salmon, trout and char resources.

Bristol Bay supports large carnivores such as brown bears, bald eagles, and wolves that depend on salmon; ungulates such as moose and caribou, and numerous waterfowl species.

Many of these species are significant subsistence food sources for Alaska Native Villages and residents of Bristol Bay.

Did EPA collect subsistence data and traditional knowledge from Alaska Native Villages in Bristol Bay?

The indigenous cultures in the Kvichak and Nushagak watersheds—the Yup'ik and the Dena'ina—are part of the last intact, sustainable salmon-based cultures in the United States. Salmon are integral to these cultures, spiritually and economically. While a small number of tribal elders and culture bearers expressed a desire to bring in more market economy opportunities, most equated wealth with stored and shared subsistence foods such as salmon.

EPA reviewed documented subsistence and traditional knowledge collected by. ~~EPA also included~~ two anthropologists ~~on its team~~ with extensive experience studying Alaska Native cultures. These anthropologists also interviewed 53 Elders and culture bearers from seven Alasksa Native villages. The results of these interviews and a characterization of local indigenous cultures is included as an appendix to the draft assessment report.

How dependent are tribes and local residents on Bristol Bay salmon resources?

According to statistics from the Alaska Department of Fish and Game, subsistence accounts for an average of 80 percent of protein consumed by area residents. In 2004 and 2005, annual subsistence rates were over 300 pounds per person in many of the villages, and reached as high as 900 pounds per person.

We found that, ~~I~~In addition to consuming salmon as part of a subsistence food diet, many of the villages depend on salmon as an economic livelihood. There is a strong link between subsistence and the market economy in the area. Goods and services such as boats, rifles, nets, snow mobiles and fuel are purchased by households and used for subsistence activities. The market economy provides seasonal employment for residents and allows them to participate year-round in subsistence activities.

Scientific Process

What kind of data did EPA collect?

EPA reviewed existing studies on the Bristol Bay watershed including. ~~The information includes:~~

- ~~Genetic diversity of~~ Bristol Bay salmon and other fish
- Bristol Bay wildlife
- Bristol Bay marine resources
- Salmon fishery economics
- Hydrology of Bristol Bay
- ~~Socioeconomic data from the fisheries~~Subsistence use data
- Traditional Ecological Knowledge
- Cultural importance of salmon
- ~~Wildlife dependence on salmon~~
- ~~Mining life-cycle studies~~
- ~~Effects of tailings ponds on aquatic life~~

EPA also examined available data on potential mine claims in the area and looked at information from other operating mines of similar types or in similar regions.

How did EPA analyze and present data?

The draft assessment report includes an analysis of potential risks of large-scale mining, along with appendices which have detailed information about the types of information we collected on fish, wildlife, economics, indigenous cultures, roads, mining chemistry, and mining practices. There is also an extensive list of references.

~~The data we collected is presented in several formats in the final watershed assessment, including:~~

- ~~A written report~~
- ~~Conceptual diagrams that model links between aquatic life, development in the watershed and potential impacts~~
- ~~Photos of the watershed~~
- ~~A risk analysis that weighs the current condition of the Bristol Bay watershed with a plausible mining scenario~~
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Did EPA use data from the Pebble Limited Partnership baseline study?

EPA considered the information in the document and used it where possible. While the information is useful, it is only a summary of information and data. EPA did not have access to the most of the actual data to do an independent analysis.

EPA has referenced Pebble Limited Partnership data in the assessment when used.

Are these findings considered preliminary or final?

Right now the findings are considered preliminary. ~~Upon~~ After release of this draft assessment in spring of 2012, EPA will host public meetings and offer the public an opportunity to comment on the assessment findings. In addition, EPA is expecting feedback from an independent scientific peer review panel that is meeting in Alaska in August.

EPA will consider public comments and input from the scientific peer review panel before it finalizes the assessment in the late fall of 2012.

Who was involved in collecting and analyzing data?

EPA scientists and employees with technical backgrounds led the collection and analysis of data. EPA had assistance from scientists at ~~The Intergovernmental Technical Team also played a role and included leading scientists from EPA,~~ the National Oceanic and Atmospheric Administration, U.S. Geological Survey, and the U.S. Fish and Wildlife Service.; EPA also hired contractors, including local academic experts on Alaska fisheries, economics, wildlife, and indigenous cultures to help with the assessment.

EPA solicited input from Federal and Alaska state agencies and ~~academic institutions~~Tribal government representatives on the assessment approach.

EPA also hired contractors to assist in the collection and analysis of data.

What is the scientific peer review panel and how does it factor into the process?

Peer review, the evaluation of a product by experts who were not involved in its development, is a tool used in the scientific community to ensure decisions are based on high-quality, sound science.

The peer review panel, which is selected and managed by an independent contractor, will evaluate the Bristol Bay Watershed Assessment and provide recommendations to EPA.

Members of the peer review panel will have background knowledge and expertise in one or more of the following areas:

- Mining, particularly porphyry copper
- Salmon fisheries biology
- Surface, subsurface or watershed hydrology
- Aquatic ecology
- Biogeochemistry
- Seismology
- Ecotoxicology

- Wildlife ecology
- Indigenous Alaskan cultures

Following its review of the assessment, the peer review panel will meet in Alaska in August. There will be an opportunity during the meeting for members of the public to provide input to panel members and observe the panel's discussions.

EPA will consider the panel's recommendations as part of its assessment finalization.

Why is EPA doing a scientific peer review for this assessment?

EPA regularly requests peer review of its scientific and technical work to ensure accuracy and get an objective, third party perspective on its work from leading scientists not associated with agency work.

Was the person I nominated considered/selected for the peer review panel?

The peer review process is led by an independent contractor that accepted nominations and will select the final peer review members. All experts recommended by the public are being considered. The contractor will select peer review members based on level of expertise, no conflicts of interest or appearance of bias, and time commitment to adequately review the assessment and attend a meeting of the peer review panel in August.

EPA is not involved in selecting or managing the peer review panel members.

How do we know the peer review panel is not biased?

The independent contractor responsible for selecting and managing the peer review panel will carefully vet the peer review panel members to identify any potential conflicts of interest that could interfere with an objective perspective on the assessment.

Can I send information to the peer reviewers?

The public will have an opportunity to address the scientific peer review panel in August when the panel meets in Anchorage to deliberate.

The peer review panel members will have specific instructions from the independent contractor about communications so as to maintain objectivity throughout the peer review process. Members of the public should not communicate with individual panel members.

Will EPA have to take all of the peer review panel recommendations?

EPA will consider all of the peer review panel's recommendations as it works to finalize the assessment this fall.

Mining

How does this assessment relate to the potential Pebble Mine?

All of the requests to initiate the Clean Water Act Section 404(c) process expressed concern with potential impacts from metallic sulfide mining or a potential Pebble Mine.

How might mining impact salmon, according to your assessment?

All the information EPA collected and evaluated is related to enhancing the agency's knowledge of the Bristol Bay salmon resource and the potential impacts of mining development on salmon.

Some of our key findings regarding salmon and mining include:

- Large-scale mining ~~could~~ will result in salmon habitat loss due to removal of streams and wetlands where a mine is placed.
- ~~,~~There will be additional losses to salmon if there is acid drainage into streams and/or major accidents such as tailings dam failures.
- Polluted runoff from roads associated with the mine, road or culvert failures, and the potential for inadequate maintenance and monitoring upon closure of a mine could also result in loss of habitat.
- The extensive water needs of mine operations could disrupt salmon habitat due to changes in the complex surface water and groundwater hydrology of Bristol Bay.

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In addition to releasing a complete draft of the watershed assessment on our website, we have provided resources including a fact sheet and presentation that describe the contents of the assessment on our Bristol Bay website: http://www.epa.gov/region10/bristolbay/

What information did EPA base its mining scenario on?

The mining scenario provides an overview of the mining practices associated with porphyry copper deposits and outlines a hypothetical but realistic series of mining scenarios.

The first scenario describes a minimum mining scenario (approximately 25 years) and the second describes a maximum mining scenario (approximately 78 years). The mining scenario addresses two time periods: the first is the development and operation phase of a mine, and the second is a post-mining phase.

EPA referred to sources describing exploration and potential mining in the Bristol Bay watershed—including a publicly available mine plan for the proposed Pebble Mine—as well as sources from the worldwide body of literature related to mining of porphyry copper deposits.

Although used as an example of potential mining, it is not EPA's intent that the mining scenario mirror what the Pebble Limited Partnership may eventually propose. The mining scenario is meant to reflect activities expected to be associated with large-scale mining in a general sense, rather than the specific characteristics of an individual mine.

Will this affect mining prospects in Bristol Bay and other parts of Alaska? Are you setting a precedent?

Each mining prospect has a unique set of circumstances that dictates the nature of the environmental review. Decisions about any particular mining prospect would be a result of the specific facts around that mining prospect and natural resources at risk, not as a result of this watershed assessment.

~~**Would EPA accept mining methods that would have fewer impacts on the Bristol Bay watershed?**~~

~~As part of our assessment, the agency evaluated potential risks of mining, other types of development and best practices that could mitigate environmental impacts.~~

What role does EPA play in the mining permitting process?

EPA may be involved in a mining permitting process due to the agency's authorities under the National Environmental Policy Act and Clean Water Act. Under NEPA, EPA reviews and comments on Environmental Impact Statements for proposed mines.

EPA also oversees the U.S. Army Corps of Engineers' permit program for the discharge of fill material, which would be necessary for building roads or dams. Under the Clean Water Act Section 404, EPA reviews

the permit public notice, can elevate concerns to the Corps, and can put restrictions on projects under Clean Water Act Section 404(c).

Under Clean Water Act Section 402, EPA provides oversight of the state's wastewater discharge (Alaska Pollutant Discharge Elimination System) permits and can object to permits that do not meet requirements.

EPA may also have a role in reviewing air permits and writing underground injection control permits.

~~EPA also oversees the U.S. Army Corps of Engineers' permit program for the discharge of fill material, which would be necessary for building roads or dams~~

Is EPA considering the economic outcomes a mine might have in the area?

The primary objective of this scientific assessment is to understand the Bristol Bay watershed ecosystem and potential threats to salmon from large-scale mining.

The assessment includes an ~~economic report~~appendix that explores the current Bristol Bay commercial and subsistence fishing economy. Some Bristol Bay villages depend heavily on fishing for income, while others derive only part of their income from fishing and depend heavily on other sources of income.

The assessment does not provide an evaluation of overall negative or positive economic impacts of mining.

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What happens if permit applications are submitted for the Pebble Mine during the watershed assessment process?

If the Pebble Limited Partnership submits permit applications, EPA will continue its work on its assessment. The agency would also work with other federal agencies and the state in the environmental review and permitting process. The watershed assessment would be used to inform these processes

Public Involvement

How can members of the public provide comments?

EPA is committed to involving the Alaskan people and other stakeholders in discussions. The agency has planned a series of community outreach efforts in Alaska where it will present information from the watershed assessment ~~and invite the public to present additional information~~.

EPA is accepting comments through its Bristol Bay email (r10bristolbay@epa.gov), at public meetings and in written form.

Written comments may be sent to WHAT ADDRESS

The public comment period runs from May 1, 2012, to June 30, 2012

What will EPA do with public comments?

The Bristol Bay Watershed Assessment is a scientific project, and scientific input will be especially useful and important as we enter the comment period. EPA will consider all information that is submitted.

Where is EPA holding public meetings?

EPA has a series of public meetings planned for the Bristol Bay area in WHAT VILLAGES, and one planned for Anchorage.

Specific times and dates will be announced once we have confirmed them.

How are tribes involved and will consultation occur?

EPA has consulted with federally recognized tribes and will continue to do so. We have contacted all Bristol Bay tribes to develop tribal consultation plans. EPA has also included tribal knowledge of the Bristol Bay watershed as part of its assessment.